

REMARKS

Applicant respectfully requests reconsideration of this application as amended.

Claims 1, 2, 4-7, 9-12, 14, 15, and 17-20 are pending in the application. Claims 1, 2, 4-7, 9-12, 14, 15, and 17-20 have been rejected.

Claims 1, 4, 6, 9, 11, 12, 14, 15, and 17 have been amended. The amended claims are supported by the specification.

Applicant reserves all rights with respect to the applicability of the doctrine of equivalents.

Claims 4, 5, 9, 10, 12, 14, and 15 have been objected to because of informalities. The Examiner indicates that claims 4 and 9 depend upon canceled claims 3 and 8, respectively. Claims 4 and 9 have been amended in accordance with the Examiner's suggestions. Therefore, applicant respectfully requests withdrawal of the objection of claims 4 and 9.

Given that claims 5 and 10 depend from claims 4 and 9, respectively, and were not rejected for other reasons, applicant respectfully requests withdrawal of the objection of claims 5 and 10.

The Examiner indicates that claims 12, 14, and 15 have an insufficient antecedent basis. Claims 12, 14, and 15 have been amended in accordance with the Examiner's suggestions. Therefore, applicant respectfully requests withdrawal of the objection of claims 12, 14, and 15.

Claims 1-15 and 17-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,760,335 of Andersson et al.

("Andersson") in view of U.S. Patent No. 6,366,580 of Bradley et al. ("Bradley") and U.S. Patent No. 6,182,193 of Hamami et al. ("Hamami").

It is submitted that claim 1, as amended, is patentable over the cited references. Amended claim 1 reads as follows.

In a digital communications network, a method comprising:
checking a multiplexed connection's bandwidth capacity to carry a call over a link;
overflowing the call onto a single non-multiplexed connection without sending the call onto the multiplexed connection, when the multiplexing connection's bandwidth is insufficient to carry the call;
and
presenting the call to an ATM Q.2931 layer if the multiplexing connection's bandwidth is insufficient to carry the call, wherein overflowing the call includes adding the single non-multiplexed connection over the link per call with the single non-multiplexed connection having a bandwidth for only the call; transmitting the call over the non-multiplexed connection; tearing down the single non-multiplexed connection once the call is completed; and
transferring the call from the non-multiplexed connection to the multiplexed connection if the multiplexing connection's bandwidth changes from insufficient to sufficient to carry the call.

The Office Action states that Andersson does not explicitly disclose a non-multiplexed connection. (Office Action, 02/21/07, page 7). Applicant agrees that Andersson does not disclose a non-multiplexed connection.

Andersson discloses determining whether AAL2 multiplexor and/or demultiplexor resources are lacking and/or excessive relating to a particular AAL2 signaling relation between first and second nodes during network operation. (Andersson, col. 4, lines 27-30). Andersson also discloses adding or removing at least one AAL2 multiplexor and/or demultiplexor based on the above determination. (Andersson, col. 4, lines 31-35). Andersson illustrates in Figure 8

how to add one or more multiplexors with each multiplexor having hundreds of AAL2 connections. (col. 9, line 9 to col. 10, line 62). Andersson illustrates in Figure 9 how to drop one or more multiplexors if the amount of available resources in the applicable total AAL2 mux group reaches a certain percent of the resources that an AAL2 mux provides. Andersson discloses a mechanism for adding or dropping multiplexors having hundreds of connections (calls) in response to a determination that more or less multiplexors are needed. This mechanism may result in wasted bandwidth if a single call in excess of the bandwidth of a current multiplexor causes the addition of another multiplexor having the capacity for hundreds of calls.

In contrast, Andersson does not disclose or teach overflowing a call onto a single non-multiplexed connection without sending the call on the multiplexed connection. Andersson does not disclose or teach presenting an overflow call to an ATM Q.2931 layer. Andersson also does not disclose or teach the limitations "wherein overflowing the call includes adding the single non-multiplexed connection over the link per call with the single non-multiplexed connection having a sufficient bandwidth for only the call; transmitting the call over the non-multiplexed connection; tearing down the single non-multiplexed connection once the call is completed; and transferring the call from the non-multiplexed connection to the multiplexed connection if the multiplexing connection's bandwidth changes from insufficient to sufficient to carry the call" as recited in amended claim 1.

Therefore, Andersson does not disclose or suggest the limitations stated in claim 1.

Bradley reads as follows.

Switch 10, in response to an incoming voice telephone call, initiates an ATM switch virtual circuit (SVC) to switch 20. In setting up this connection, switch 10 passes to switch 20 information that tells switch 20 that this is an initial connection for the call together with an identifier for the connection. The identifier can be encoded in a standard ITU SET UP message in a variety of ways, using information elements ("IE") such as Broadband Lower Layer Information ("BLLI"), Generic Information Transport ("GIT") and User-to-User ("UU"). In setting up the call, switch 10 allocates 64 Kbps of bandwidth to the connection. For the purposes of this patent, the initial connection is referred to as "SVC 1".

In the middle of the call, after detecting that the call is a voice call and not a fax call, switch 10 may decide to change the traffic descriptor of the SVC, from, for example, 64 Kbps to 16 Kbps so that the voice call is compressed. In another embodiment, switch 20 instead of switch 10 may decide to change the traffic descriptor. In the present invention, switch 10 accomplishes this by placing another SVC (referred to for the purposes of this patent as "SVC 2") with the desired traffic descriptor to switch 20, and then switching the traffic over to SVC 2. After switching over the traffic, switch 10 will then tear down SVC 1. The present invention executes this switch-over quickly and harmoniously, without interrupting service.

(Bradley, col. 3, lines 33-60).

Bradley discloses a method of changing the characteristics of telephone call data (e.g., 16 Kbps, 64 kbps) on an ATM network that is initially transmitted via a first SVC between a first ATM switch and a second ATM switch. The call data is switched to a second SVC with the first SVC then being torn down.

In contrast, Bradley does not disclose or teach overflowing a call onto a non-multiplexed connection without sending the call on the multiplexed connection. Applicant agrees with the Examiner regarding Bradley not disclosing

or teaching the presenting of an overflow call to an ATM Q.2931 layer. Bradley also does not disclose or teach the limitations "wherein overflowing the call includes adding the single non-multiplexed connection over the link per call with the single non-multiplexed connection having a sufficient bandwidth for only the call; transmitting the call over the non-multiplexed connection; tearing down the single non-multiplexed connection once the call is completed; and transferring the call from the non-multiplexed connection to the multiplexed connection if the multiplexing connection's bandwidth changes from insufficient to sufficient to carry the call" as recited in amended claim 1 because Bradley teaches establishing a call on the first SVC, switching to the second SVC, tearing down the first SVC, and then have a normal operating state using the second SVC.

Therefore, Bradley does not disclose or suggest the limitations stated in amended claim 1.

Hamami discloses a signaling cache suitable for use in networks, such as ATM networks, that utilize signaling in establishing calls. The invention functions to greatly reduce the amount of call processing required for calls that have been previously received and processed by the switch. The signaling cache can be implemented on each switch in the network to reduce the processing requirements network wide. Each switch along the call route functions to perform signaling processing only once for each unique call request. The results of the signaling processing are stored in a cache memory to enable re-use in the event a call request is received that matches a previously received and processed call request. (Hamami, Abstract). Hamami also discloses that the Q.2931

standard is responsible for building the signaling messages that are transmitted over the network. (Hamami, col. 5, lines 42-45).

In contrast, Hamami does not disclose or teach overflowing a call onto a non-multiplexed connection without sending the call on the multiplexed connection. Hamami does not disclose or teach the presenting of an overflow call to an ATM Q.2931 layer. Hamami also does not disclose or teach the limitations “wherein overflowing the call includes adding the single non-multiplexed connection over the link per call with the single non-multiplexed connection having a sufficient bandwidth for only the call; transmitting the call over the non-multiplexed connection; tearing down the single non-multiplexed connection once the call is completed; and transferring the call from the non-multiplexed connection to the multiplexed connection if the multiplexing connection’s bandwidth changes from insufficient to sufficient to carry the call” as recited in amended claim 1.

Therefore, Hamami does not disclose or suggest the limitations stated in claim 1.

It is respectfully submitted that Andersson does not suggest a combination with Bradley, and Bradley does not suggest a combination with Andersson because Bradley teaches away from multiplexing multiple channels onto a single SVC as taught by Andersson. Bradley also teaches tearing down the first SVC after transferring the call to the second SVC while Andersson teaches dropping one or more multiplexors if the amount of available resources in the applicable total AAL2 mux group reaches a certain percent of the

resources that an AAL2 mux provides. It would be impermissible hindsight to combine Andersson with Bradley based on applicant's own disclosure.

It is respectfully submitted that Andersson does not suggest a combination with Hamami, and Hamami does not suggest a combination with Andersson because Hamami teaches away from the Q.2630.1 signaling standard for setting up and releasing switched AAL2 connections as taught by Andersson. It would be impermissible hindsight to combine Andersson with Hamami based on applicant's own disclosure.

Furthermore, even if Andersson, Bradley, and Hamami were combined, such a combination would lack at least the following limitations of amended claim 1.

overflowing the call onto a single non-multiplexed connection without sending the call onto the multiplexed connection, when the multiplexing connection's bandwidth is insufficient to carry the call; and presenting the call to an ATM Q.2931 layer if the multiplexing connection's bandwidth is insufficient to carry the call, wherein overflowing the call includes adding the single non-multiplexed connection over the link per call with the single on-multiplexed connection having a bandwidth for only the call; transmitting the call over the non-multiplexed connection; tearing down the single non-multiplexed connection once the call is completed; and transferring the call from the non-multiplexed connection to the multiplexed connection if the multiplexing connection's bandwidth changes from insufficient to sufficient to carry the call.

Therefore, in view of the above distinction, neither Bradley nor Andersson nor Hamami, individually or in combination, disclose each and every limitation of amended claim 1.

Claims 6, 11, and 17 contain similar limitations but not identical compared to the limitations of claim 1. For similar reasons, independent claims 6, 11, and

17 are not rendered obvious by Andersson in view of Bradley and Hamami under 35 U.S.C. § 103(a).

Given that claims 2, 4, 5, 7, 9,10, 12, 14, 15, and 18-20 depend from a respective one of the independent claims 1, 6, 11, and 17, it is submitted that claims 2, 4, 5, 7, 9,10, 12, 14, 15, and 18-20 are also patentable over the cited references.

In view of the foregoing amendments and remarks, applicant respectfully submits that all of the rejections and objections have been overcome.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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